

COM-TEN
INDUSTRIES

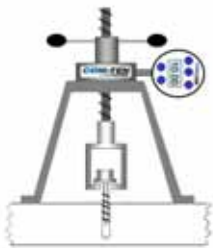
PULL TESTERS FOR FASTENER MEMBRANE FOAM TESTING



*Measuring force from **A**pple to **Z**ipper*

COM-TEN provides both analog and digital pull testers, and has been doing more and more work with the building industry in USA and around the world since 1960. Nowhere is this more important than in the building industry. Subject continuously to the forces of wind, gravity, and even their own weight, not to mention events like earthquakes, buildings under construction need pull testers to measure every detail for the structure to be sound. Fasteners, membranes, foam, tiles that hold together must be checked with pull testers to make sure they hold under both normal and any possible abnormal conditions.

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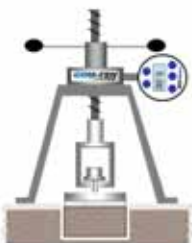
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Com-Ten's ROOFIRST pull tester is a valuable solution to test fasteners on the roof. It is used to prove the fastening integrity for existing or new roof construction. It is designed to record and document on site pull-out values. It can be used in horizontal or vertical tests in all type of substrates.

This simple to operate unit is sturdy and pull tests up to 1000lbs. It has a large 2-1/2" diameter analog dial includes maximum reading pointer. It can be used with either plastic or steel fasteners.



Applications



Our ROOFIRST can be used to test the following fasteners:

- **Plastic fasteners** - Use with tectum and gypsum type fasteners. Also can be used with larger diameter fasteners with no changes or extra pieces.

- **Steel fasteners** - Use with screws, toggle bolts, concrete (threaded or drive-in) type fasteners.



Specifications

The ROOFIRST is a simple and yet complete unit:

- Accuracy: 50 lb
- Resolution: 25 lb
- Fastener diameter up to 1/2"
- Large 2-1/2" diameter dial includes maximum reading pointer
- Gauge positioned on tester for easy visibility by operator
- Comes in its own metal carrying case for good protection
- Delivered with a certificate of calibration in 5 points traceable to NIST
- Zinc plated for corrosion protection
- Weight: 9.5 lb

Visit our website
www.pull-test.com
to discover our complete range of pull testers
and choose the right solution for your tests

Today, Com-Ten pull-out tester are accepted as the world standard for direct tensile test on roofing fasteners and construction, and the name Com-Ten is synonymous with the technique. Com-Ten has, since the beginning of the 60's, been forerunners in the development of fastener testers and mechanical attachment to suit almost all applications.

The principal objective in the use of a pull tester system is to validate the withdraw resistance of fixings on substrate. During the last decade the use of pull tester has become more and more widespread. And for good reasons. The usage of Com-Ten pull tester is a very simple, flexible and reliable method that can be used on various substrates: Brickwork, Concrete and with almost any situations encountered during the fixing process.



EXTRACTOR

The Extractor fastener tester is an essential tool in building industries, where it is important to validate and check for faulty fixing anchors on both new and old construction.

This dedicated kit comes with a full range of accessories:

- A Pull tester (with its calibrated gauge 1000lb or 2000lb, analog or digital)
- Lifter foot for standard roofing screw LFS0250 (shank: 1/4" – Head: 5/8")



FIXUROOF 300

The Fixuroof portable pull-tester is an accurate unit, designed for testing on the field the pull-out force for base ply fastener. Easily determine whether the mechanical fastener provides sufficient resistance to static uplift force to meet the wind load requirements.

- A Pull tester (with its gauge 300lb, analog or digital)
- Fabric lifter foot (shank: 5/8"–Head: 1.25-3.5")
- 10 x replacement fabric membrane



FIXUROOF 1000

- A Pull tester (with its gauge 1000lb, analog or digital)
- 2 x heavy duty deck plate lifter foot LFH3500 (shank: 7/8" – Head: 3.5")





TILE TESTER

The Tile uplift portable tester is an accurate unit, designed for testing the pulling force of installed roof tiles. Easily perform your quality test with our full equipped Tile tester and prevent from loose tiles.

The Tile Tester is specially designed for the following domains:

- Measure the withdraw load to validate a safe installation of tiles
- Test the uplift strength of in place roofing tiles

This dedicated kit comes with a full range of accessories:

- A Force gauge (Capacity 100lb)
- Handle
- Chain
- Tile Lifter foot TLF1120

HOW IT WORKS



A tensile load is applied to the fixing mechanically using the hand crank of the pull-out tester. The gauge displays and registers the peak pull-out force.

Visit our website
www.pull-test.com
to view our animations and choose
the right solution to test your
fasteners

TYPE OF FASTENERS



Decl plate



Nail



Screw



Tectum & LT.WT

The principal objective in the use of a pull-out tester system is to validate the withdraw resistance of fixings on a substrate. During the last decade, the use of pull tester has become more and more widespread; and for good reasons. The usage of your pull tester is a very flexible method that can be used on various substrates: Brickwork, Concrete, Masonry and with almost any situation encountered during fixings process.

Our EXTRACTOR fastener testers are specially designed for the following domains:

- Measure the pull-out force to validate a safe working load
- Check the correct installation of existing fixings
- Measure the withdrawal resistance of fastener used for attachment of various components to various materials
- Proof the holding power of anchors



EXTRACTOR

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The Extractor fastener tester is an essential tool in building industries, where it is important to validate and check for faulty fixing anchors on both new and old construction.

This dedicated kit comes with a full range of accessories:

- A Pull tester (with its calibrated gauge 1000lb or 2000lb, analog or digital)
- Lifter foot for standard roofing screw LFS0250 (shank: 1/4" – Head: 5/8")



EXTRACTOR 4000

This EXTRACTOR 4000 is designed to test heavy duty anchors with a load up to 4000lb.

It comes with:

- A Pull tester (with its calibrated gauge 4000lb, analog or digital)
- Lifter foot for standard roofing screw LFS4050 (shank: 0.5" – Max. Head: 1.0")



EXTRACTOR 6000

This EXTRACTOR 6000 is designed to test heavy duty anchors with a load up to 6000lb.

It comes with:

- A Pull tester (with its calibrated digital gauge 6000lb)
- Lifter foot for standard roofing screw LFS6100 (shank: 1" – Max. Head: 2.0")

SAFOR



The Safor portable tester is an accurate unit, designed for testing the pulling force of fixings prior to being put into service. Easily prevent accidents by testing on site the fixings to install end brackets and safety harness eyebolts. The Safor tester is specially designed for the following domains:

- Testing of safety anchorages and Ringbolts
- Proof the installation of fall arrest eyebolts & single point anchors.

This dedicated kit comes with a full range of accessories:

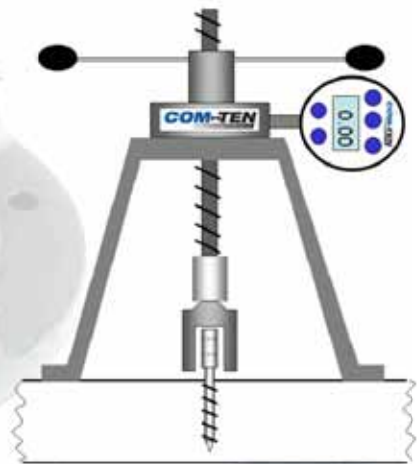
- A Pull tester (with its calibrated gauge 2000lb, analog or digital)
- Ringbolt adaptor clevis
- Lifter foot for NTB type fasteners LFN0468 (shank: 15/32" – Head: 2.0")

HOW IT WORKS

A tensile load is applied to the fixing mechanically using the hand crank of the pull-out tester. The gauge displays and registers the peak pull-out force.



Visit our website
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animations and
choose the right
solution to test
your fasteners



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TYPE OF FASTENERS



Chemical anchors



Concrete wedge anchor



Concrete sleeve anchor



Drop in concrete anchor

Com-Ten is an instigator in the validation of installation of insulation membrane, with the UPLIFT Tester, and the measurement of the bonding strength of coatings, with the ADHOR Tester. These products are designed to proof the good installation and adhesion properties in the field.

The ADHOR portable tester is ideal for your quality test on coating layer. It allows you to evaluate easily on the field the pull strength of your coating system on various substrates. The ADHOR is used in construction, roofing and in all the industrial and building companies when the bonding strength measurement is required.

The UPLIFT portable tester was designed in conjunction with SPRI, for testing on the field the uplift resistance of adhesion. Easily test the attachment of the tile to underlayment and determine whether the uplift resistance performance meets the minimum wind load requirements.



ADHOR SERIES

The ADHOR tester is specially designed for the following domains:

- Measure the pull out strength between two layers after a repair or a new work
- Check the adhesion strength between concrete structures and the existing substrate
- Check the adhesion strength between additional overlays and existing substrate

ADHOR kit

The ADHOR kit comes with a full range of accessories:

- A Pull tester (with its calibrated gauge 400lb, 1000lb or 2000lb, analog or digital)
- Lifter foot to attached discs LFS0250
- Pack of 10 disposable 2.25" adhesion discs LFM225D

ADHOR R kit

This ADHOR R kit comes with a full range of accessories:

- A Pull tester (with its calibrated gauge 400lb, 1000lb or 2000lb, analog or digital)
- Lifter foot to attached discs LFS0250
- Two reusable 2.25" adhesion discs LFM225R
- Two reusable 4" adhesion discs LFM400R



UPLIFT SERIES

The UPLIFT portable tester was designed in conjunction with SPRI, for testing on the field the uplift resistance of adhesion. Easily test the attachment of the tile to underlayment and determine whether the uplift resistance performance meets the minimum wind load requirements.

The Uplift portable tester is specially designed for the following domains:

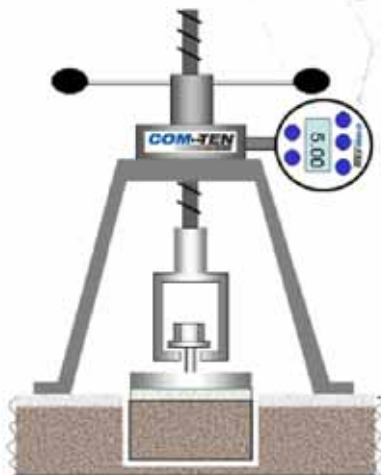
- Test the floor tiles installed on balconies
- Check the adhesion of the roof covering
- Proof the good installation of the waterproofing membranes
- Perform a bonded pull test

This dedicated kit comes with a full range of accessories:

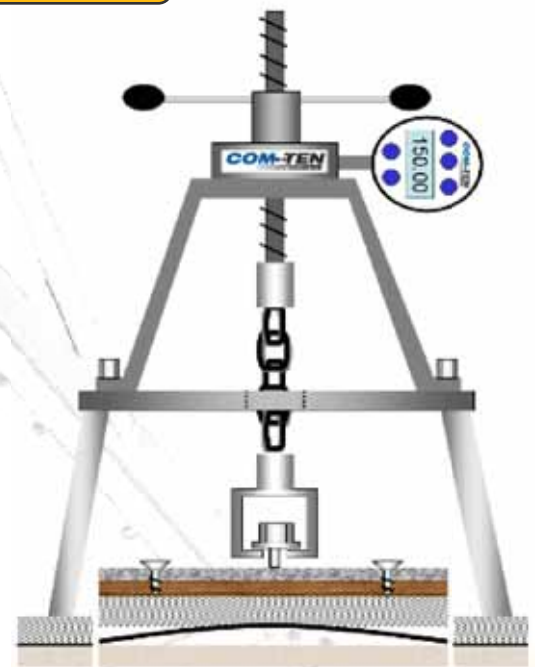
- A Pull tester (with its calibrated gauge 2000lb, analog or digital)
- Uplift frame URF2424
- Reusable pulling plate MPP2424

HOW IT WORKS

A clean disc is glued on a planed, cleaned surface (using an epoxy resin). A curing period of 24 hours is needed to ensure a good bonding of the adhesive. This disc is grabbed by the pull tester using a female slotted adaptor which stays at the base of the pull tester. Then the disc is pulled off in direct tension using the hand crank of the Adhor tester. The gauge displays and registers the peak pull out force break of the coating on its substrate.



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www.pull-test.com
to choose the right
solution for your
adhesion testing



The 2" x 2" uplift plate is glued to the tiles. A waiting time of 24 hours is required to allow the adhesive to bond properly. The plate is grabbed by the pull tester using a female slotted adaptor which is attached to the Uplift pull tester. Then the plate is pulled off in direct tension using the hand crank of the Uplift pull tester and the corresponding pressure is applied. The gauge displays and registers the pull-out force.

The Foam application concept involves terminology that is a little different from normal fastener tester language. Foam Tester, is based on the principle of compression. During the installation or inspection on spray applied polyurethane foam (SPF), several possibilities/approaches can be considered; but with its Foam Tester Com-Ten Industries proposes to you the most cost and time efficient solution to perform the measurement in situ.

The Foam Portable Tester has been designed by Com-Ten Industries for your quality test on spray applied polyurethane foam (SPF). It allows you to evaluate easily on the field the quality of the foam sample. With our foam tester, there is no more downtime waiting for laboratory results; do it yourself saving time and money.



FOAM TESTER

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Foam Tester is an essential tool in roofing industries, where it is important to validate and obtain accurate strengths of polyurethane foam, and check for improperly installed foam.

The Foam Tester is specially designed for the following domains:

- Test the compressive yield strength of the foam
- Validate the quality of SPF

This dedicated kit comes with a full range of accessories:

- A Pull tester (with its calibrated gauge 400lb, analog or digital)
- Foam compression fixture



DELUXE FOAM TESTER



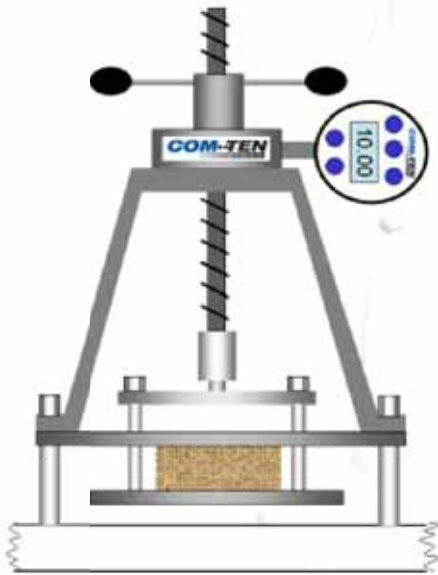
The Deluxe Foam Tester kit includes the foam core cutter, an indispensable tool to cut your sample to the right size and a single arm crank to make your test quicker. The Deluxe Foam Tester is an essential tool in roofing industries, where it is important to validate and obtain accurate strengths of polyurethane foam, and check for improperly installed foam.

This dedicated kit comes with a full range of accessories:

- A Pull tester (with its calibrated gauge 400lb, analog or digital)
- Foam compression fixture
- Foam core cutter
- Single arm crank with rotating handle

FOAM CORE CUTTER

Specially designed foam core cutter to cut foam samples with an area of 4in^2 (2.25in diameter). It makes the things easy and quick when it is time to take a sample of the foam.

HOW IT WORKS

The foam sample is positioned in between two compression platens. The compression fixture is attached to a standard pull-out tester. A direct compression load is applied to the foam sample using the hand crank of the pull-out tester. The compressive force is displayed and registered on the readout gauge.

We validated our Foam Tester in our laboratory to be sure that our results are consistent with the ASTM procedures. Read more online on our website www.pull-test.com.

Visit our website
www.pull-test.com
to view our
animations and
choose the right
solution to test
your foam





Our pull testers are used to prove the holding capacity of hundreds types & sizes of fasteners in roofing, construction, commercial, industrial, and other applications. Specifically engineered for pullout strength tests and nondestructive testing of welded, staked, threaded, epoxied and power-driven fasteners.

An excellent tool for production sampling, quality control, on site testing and verifying results during research and development of new fastening techniques. A wide 8.25" diameter frame is designed to accommodate lightweight fasteners up to 3.5" diameter as well as the wide range of traditional fasteners used in the roofing industry.



ANALOG PULL TESTER

- 8 capacities from 100 pounds to 4000 pounds with a typical power stroke of 3 inches.
- Hydraulic rotary piston gauge cell coupled to a bourdon tube gauge providing excellent accuracy and repeatability.
- Grade B gauge is accurate to 2% full scale in the middle 50% of range, 3% full scale in upper and lower 25%.
- Calibrated & certified traceable to NIST standards and comes complete with certificate of calibration.
- Analog gauge has figure intervals every 10% and minor graduation at 1% in pounds or kilograms.
- Maximum pointer provides peak hold attained until it is reset.
- Lightweight cast aluminum frame is extremely durable, rugged and is covered by a lifetime guarantee.
- Comes with locking carry case padded on the inside to protect the tester and also provides storage for tools, etc.
- Wide frame tests lightweight fasteners up to

DIGITAL PULL TESTER

- Various capacities ranging from 100 to 6000 pounds with a typical power stroke of 3 inches.
- Hydraulic rotary piston gauge cell coupled to a digital gauge providing superior accuracy and repeatability.
- Large, easy-to-read LED display can be selected by the user to read in pounds, kilograms, or Newtons.
- The digital display eliminates the errors caused by interpreting an analog gauge.
- Gauge is accurate to 0.5% full scale, has 150% overforce protection, and has peak hold and automatic shutoff.
- Gauge is enclosed in a durable rubber casing to protect against falls and abuse which can damage the gauge.
- Calibrated & certified traceable to NIST standards and comes complete with certificate of calibration.
- Lightweight cast aluminum frame is extremely durable
- Comes with locking carry case padded on the inside to protect the tester and also provides storage for tools, etc.

STANDARD GRIPS

LFS 0250

For standard roofing screws
Shank: 1/4" (6.0 mm)
Head: 5/8" (15.8 mm)
Capacity: 2000 lb (900 kg)



LFN 0468

For NTB type fasteners
Shank: 15/32" (11.9 mm)
Head: 2.0" (50.8 mm)
Capacity: 2000 lb (900 kg)



LFR 0437

For Rawl type fasteners
Shank: 7/16" (11.1 mm)
Head: 1.0" (25.4 mm)
Capacity: 2000 lb (900 kg)



LFH 3500 **

Heavy-duty deckplates
Shank: 7/8" (22.2 mm)
Head: 3.5" (88.9 mm)
Capacity: 1000 lb (450 kg)



* Other shank sizes available

LIGHTWEIGHT GRIPS

Lightweight lifter feet

For use with
deckplates.
See below for specs.



PART #	HEAD	SHANK*	CAPACITY
LFL1500 **	0.75"-1.50"	0.875"	300 Lb.
LFL2250 **	1.25"-2.25"	0.875"	300 Lb.
LFL3000 **	2.00"-3.00"	0.875"	300 Lb.
LFL3500 **	2.75"-3.50"	0.875"	300 Lb.

* Other shank sizes available starting at 0.25"

LFF 3500 **

Flexible Fabric Lifter Foot
Shank: 5/8", Head: 1.25-3.5"
Capacity: 300 lb (135 kg)

Specially designed to meet Dade County Protocol PA105-A. This proven revolutionary design has a reinforced, replaceable, flexible fabric membrane that mimics the actual movements of roof membranes as they pull on a fastener during uplift. Also available in 2-hole model.

PLFF35002S Replacement 1-hole fabric membrane

PLFF35004S Replacement 2-hole fabric membrane



** To quickly and easily connect these grips to the tester, use in conjunction with the LFS0312.

SPECIAL GRIPS

LFS 4xxx

For high capacity anchors
Shank: specify shank up to
0.5" (12.7 mm)
Max Head Dia: 1" (25.4 mm)
Capacity: 4000 lb (1800 kg)



TLF 1120

Tile Edge Lifter Foot
for testing the uplift strength of
in-place roofing tiles
Max Thickness: 0.75" (19 mm)
Capacity: 400 lb (180 kg)



FOAM COMPRESSION

Com-Ten Industries new Foam Compression Fixture is specially designed for testing board stock or polyurethane foam samples on-site at the point of application. With traditional methods, foam samples must be sprayed on-site and then forwarded to a laboratory at a remote location for testing. Often, this laboratory is the in-house testing facility of the manufacturer of the product being tested. Not only does the testing require at least a couple of days, during which time the applicator continues to apply the product, but the manufacturer testing his own material raises conflict of interest issues. This new test method reduces transit time required for testing of samples and substandard roofing systems can be identified immediately. The patented Foam Compression Fixture was developed in conjunction with a major state university school of construction and is based on ASTM D-1621.

FCF 0400

Foam Compression
Fixture

Diameter: 4" (101.6 mm)
Thickness: 4" (101.6 mm)
Capacity: 400 lb (180 kg)

**FCC 0225**

Foam Core
Cutter

Dia: 2.25" (57.2 mm)
Area: 4 in² (25.7 cm²)

**MEMBRANE ADHESION**

The Membrane Adhesion Adapter is designed to check the adhesion of a membrane to the substrate in the field. It is designed around ASTM D4541, "Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers". This test is also based on Dade County PA-124 Bond Pull Test but utilizing a smaller sample, 4 square inches. The LFM 225D is a single use disposable fixture and the LFM 225R is a sturdy, thicker fixture that can be ground flat and reused. Both fixtures require the LFS 0250 lifter foot (shown on opposite side).

LFM 225D - Disposable
Membrane Adhesion Adapter
Diameter: 2.25" (57.2 mm)



LFM 225R - Reusable
Membrane Adhesion Adapter
Diameter: 2.25" (57.2 mm)

**UPLIFT FIXTURE**

The NEW Uplift Resistance Fixture is designed to test the performance of all types of insulation adhesives. It is primarily intended for situations when an existing roofing system is being replaced and the general conditions of the substrate in question are in doubt as well as for new construction. The fixture is designed to be attached to any new or existing Com-Ten W-series analog or digital hand operated fastener tester (sold separately). Made out of lightweight materials, it is easily transported and disassembles to 8" x 8" x 34". It tests a 2 x 2 foot area and was designed in conjunction with SPRI and is being used in an ongoing project to develop test procedures for determining the uplift resistance of adhesives.

URF 2424

Uplift Resistance
Fixture

Max size:
24 x 24 in. (61x 61cm)
Area:
4.0 ft² (3716 cm²)
Capacity:
2000 lb (900 kg)

MPP 2424

Optional 24 x 24
inch metal pulling
plate. Folds to 12" x
24" x 1.5" thick.



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